Epidemiology
- Accounts for 10% of all ED visits, and <40% receive the diagnosis of nonspecific abdominal pain
- Elderly patients (>65yo), immunocompromised patients and women of reproductive age deserve special consideration
- Immunocompromised patients are often worked up in the ED and require a broad differential diagnosis due to misleading labs and highly variable presentations

Pathophysiology
- Most common sources of pain perceived are the GI and GU tracts
- Pain derived from one of three distinct pain pathways: visceral, somatic, referred
  - Visceral: results from autonomic nerve stimulation, usually earliest manifestation of disease, poorly characterized and hard to localize
  - Somatic: occurs with irritation of the parietal peritoneum; usually caused by infection, chemical irritation or other inflammatory processes; conducted by peripheral nerves; better localization than visceral pain; often intense and constant
  - Referred: pain felt at a distance from its source, makes localization difficult, both visceral and somatic can manifest as referred

Differential Diagnosis
- Intraabdominopelvic causes (intraperitoneal, retroperitoneal, pelvic)—ex: appendicitis, cholecystitis, pancreatitis
- Extraabdominopelvic causes—ex: pneumonia, MI, ketoacidosis, toxicologic

Signs and Symptoms
- Perform a focused history, asking high yield questions
- Abrupt onset usually represents a more serious case
• **Bowel Obstruction**—diffuse, severe, colicky
• **Mesenteric Ischemia**—“pain out of proportion to exam”
• **Pancreatitis**—pain radiating from epigastrium straight through to midback
• **Splenic pathology, Diaphragmatic irritation, or Free intraperitoneal fluid**—pain radiating to left shoulder
• **Perforated gastric/duodenal ulcer, ruptured aortic aneurysm or ectopic pregnancy**—pain associated with syncope

  • Thorough review of PMH is key, including medications that can be causing current disease state (immunosuppressive, anticoagulation, anti-inflammatory, narcotics)

**Work-up**

• Measure vital signs, although interpret in context of entire presentation because they can sometimes be misleading
• Perform a thorough abdominal exam with patient supine and abdomen exposed
• Consider rectal exam if concerned for gastrointestinal hemorrhage, prostatitis or perirectal disease
• Perform a pelvic exam in females with lower abdominal pain and a GU exam in males
• Choose a pelvic ultrasound to evaluate uterine and ovarian pathology and a CT for intra-abdominal pathology
• Exams may be repetitive, especially when presentations are atypical
• UA and UPT testing are time- and cost-effective; CBCs are frequently ordered but rarely helpful for a diagnosis
• Plain radiography is only useful if bowel obstruction or foreign body is suspected
• CT is used often in elderly patients and is the imaging modality of choice with nonobstetric, nonbiliary abdominal pain
• Bedside transabdominal/transvaginal ultrasounds are useful to identify intrauterine pregnancy or diagnose non-life-threatening conditions such as gallstones

**Empiric Management**

• Main goals: physiologic stabilization, control of symptoms and expeditious diagnosis with or without consultation
• Analgesics, antacids, anticholinergics, antiemetics, NGT suctioning or broad-spectrum antibiotics are given according to symptoms and suspected disease process

**Disposition**

• Surgical vs. Nonsurgical consultation and management
• Admission for observation (using information gained from H&P, test results, suspected disease, likelihood of follow-up after discharge, patient’s ability to return if symptoms worsen)
• Discharge if clinically stable with appropriate follow-up care arranged and following criteria met:
  o No serious organ pathology or peritoneal irritation suspected
  o Normal or near-normal vitals signs
  o Pain and nausea controlled
  o Patient can take fluids by mouth
  o Patient informed about what to do if circumstances change after discharge